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PATENT COOPERATION TREATY

PCT

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INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference 0275Y-608POA	<b>FOR FURTHER ACTION</b> See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/US03/19031	International filing date (day/month/year) 17 June 2003 (17.06.2003)	Priority date (day/month/year) 19 June 2002 (19.06.2002)
International Patent Classification (IPC) or national classification and IPC IPC(7): B23D 61/04 and US Cl.: 83/835, 842, 839, 849		
Applicant BLACK & DECKER, INC.		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.

2. This REPORT consists of a total of 3 sheets, including this cover sheet.

☐ This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of 4 sheets.

3. This report contains indications relating to the following items:

- I ☒ Basis of the report
- II ☐ Priority
- III ☐ Non-establishment of report with regard to novelty, inventive step and industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☐ Certain defects in the international application
- VIII ☐ Certain observations on the international application

Date of submission of the demand 16 January 2004 (16.01.2004)	Date of completion of this report 21 March 2005 (21.03.2005)
Name and mailing address of the IPEA/US Mail Stop PCT, Attn: IPEA/US Commissioner for Patents P.O. Box 1450 Alexandria, Virginia 22313-1450 Facsimile No. (703) 305-3230	Authorized officer Allan Shoap <i>Shawn A. Greene for</i> Telephone No. 703-308-1148

## INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/US03/19031

**I. Basis of the report**

## 1. With regard to the elements of the international application:\*

☒ the international application as originally filed.☒ the description:

pages 1-4 \_\_\_\_\_ as originally filed

pages NONE \_\_\_\_\_, filed with the demandpages NONE \_\_\_\_\_, filed with the letter of \_\_\_\_\_.☒ the claims:

pages 5 and 6 \_\_\_\_\_, as originally filed

pages NONE \_\_\_\_\_, as amended (together with any statement) under Article 19pages NONE \_\_\_\_\_, filed with the demandpages NONE \_\_\_\_\_, filed with the letter of \_\_\_\_\_.☒ the drawings:

pages 1-2 \_\_\_\_\_, as originally filed

pages NONE \_\_\_\_\_, filed with the demandpages NONE \_\_\_\_\_, filed with the letter of \_\_\_\_\_.☐ the sequence listing part of the description:pages NONE \_\_\_\_\_, as originally filedpages NONE \_\_\_\_\_, filed with the demandpages NONE \_\_\_\_\_, filed with the letter of \_\_\_\_\_.

## 2. With regard to the language, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language \_\_\_\_\_ which is:

☐ the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).☐ the language of publication of the international application (under Rule 48.3(b)).☐ the language of the translation furnished for the purposes of international preliminary examination (under Rules 55.2 and/or 55.3).

## 3. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

☐ contained in the international application in printed form.☐ filed together with the international application in computer readable form.☐ furnished subsequently to this Authority in written form.☐ furnished subsequently to this Authority in computer readable form.☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.4. ☐ The amendments have resulted in the cancellation of:☐ the description, pages NONE☐ the claims, Nos. NONE☐ the drawings, sheets/~~fig~~ NONE5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).\*\*

\* Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17).

\*\* Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.

## INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.  
PCT/US03/19031**V. Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement****1. STATEMENT**

Novelty (N)	Claims <u>1-12</u>	YES
	Claims <u>NONE</u>	NO
Inventive Step (IS)	Claims <u>NONE</u>	YES
	Claims <u>1-12</u>	NO
Industrial Applicability (IA)	Claims <u>1-12</u>	YES
	Claims <u>NONE</u>	NO

**2. CITATIONS AND EXPLANATIONS**

Claims 1-2, 5-7 and 10-12 lack an inventive step under PCT Article 33(3) as being anticipated by Lesherin view of Mattes.

Lesher discloses (Fig. 1-6) the invention substantially as claimed including an annular body 5, a plurality of shoulders (see Fig. 1), a plurality of inserts (18 and 19), a cutting edge and a back angle. Lesher does not show a first edge surface, a second angled edge surface and an interface. However, Mattes teaches the use of a first edge surface 10a, a second angled edge surface 15 and an interface (Fig. 3) for the purpose of avoiding the adverse influence of transverse forces in order to permit straight cut. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified Lesher's inserts by providing the first edge surface, the second angled edge surface and the interface as taught by Mattes in order to avoid the adverse influence of transverse forces in order to permit straight cut.

Claims 3, 4, 8 and 9 lack an inventive step under PCT Article 33(3) as being obvious over Lesher et al in view of Mattes as applied to claims 1 and 7 above, and further in view of Baldoni, II et al.

The modified device of Lesher discloses the invention substantially as claimed except for materials of carbide, 8.6% TiC, 12% TaNbc and 9.5% Co. However, Baldoni teaches the use of materials of carbide, TiC, TaNbc and Co for the purpose of promoting crater and flank wear resistances. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified Lesher's inserts by providing materials of carbide, TiC, TaNbc and Co as taught by Baldoni in order to protect the cemented metal carbide substrate from corrosive atmosphere and abrasion. Regarding the amount of percentage, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modified the modified invention of Lesher by providing 8.6% TiC, 12% TaNbc and 9.5% Co, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art.

Claims 1-12 have novelty under PCT Article 33(2) since no single reference shows the claimed invention.

Claims 1-12 have industrial applicability under PCT Article 33(4), since the claimed invention can be made or used in industry.

**NEW CITATIONS**

US 4,604,933 A (Lesher et al.) 12 August 1986, see col. 1-8.